

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
Environmental Services Division
60 Westview Street, Lexington, MA 02173-3185

RCRA RECORDS
FACILITY *Ciba Geigy Corp*
ID NO. *R10001494353*
FILE NO. *R-5*
OTHER _____

MEMORANDUM

DATE: August 10, 1988

SUBJ: Case #9657 - Ciba-Geigy - RCRA Program
Kemron Environmental Services (LAB)
Seven Soil Samples for VOA, BNA & Pesticides
Samples ID AK603 - AK609. AK605 & AK606 are
field duplicates. AK609 is a lab prepared artificial
soil blk.

FROM: Elio Goffi *EG*
ESD-QA

TO: Dennisses Valdes
ESD-Water Division

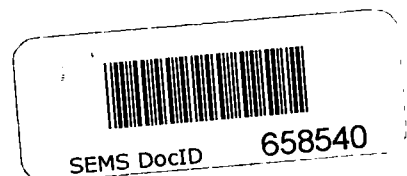
The package contained all the essential information required to assess the accuracy and precision of the results. The only exceptions were form I-SV-1 and SV-2 sample data reporting sheets which documented 1000 gms of soil was extracted. This was in error. The RIC documented 30 gms soil was extracted. Kemron was called and corrected sheets were submitted.

VOA ORGANIC ANALYSES

Nothing Significant to Report

Table I (VOA) summarizes the validation recommendations which were based on the following information:

Holding times, BFB performance, surrogates spike recoveries, matrix spike recoveries, matrix spike duplicates and field precision data were reviewed and all contractual criteria were met. Two lab blks (VBLKE23 and VBLKE25) reported 4 and 5 ppb of methylene chloride and 2 ppb 2-Butanone. Action: Reject methylene chloride ≤ 40 ppb and 2-Butanone ≤ 10 ppb.



The Northrop Artificial soil blk (AK609) was contaminated and not considered in the data review. Initial and continuing calibrations had % RSD and %D \geq 50% for Acetone, Bromoform, 2-Butanone, and 2-Hexanone. Action: J positive results and UJ nondetects.

EXTRACTABLE ORGANIC ANALYSIS (BNA)

Few semivolatiles compounds were detected ST of non-significant amounts.

All reported compounds are flagged "J" and are less than the CRQL (Contract Required Quantitation Limits). At these quantitative levels, some mass spectra are borderline acceptance.

The only significant quantitation reported was bis (2-Ethylhexyl) phthalate in sample AK605 (2900 ppb). This was probably a lab contaminant. AK605 and AK606 were field blks. AK606 reported bis (2-ethylhexyl)phthalate undetected.

Table II. (Extractable organic analysis) summarizes the validation recommendations which were based on the following information:

Holding time, DFTPP performance results, surrogate spike recoveries, matrix spike recoveries, matrix spike duplicate results (exception: pyrene 56% RSD: no action) and field precision results were reviewed and all contractual criteria were met. The BNA BLK #SBLKS23 was free of all contaminants. The CRQL were reported correctly. Semi-volatile initial and continuing calibrations were acceptable and no action necessary. Calculation checks were performed on BNA analyses and the reported results were reproducible. The following spectra were of poor quality and should be rejected; samples AK606, AK607 Benzo (K) fluoranthene and sample AK607 Indeno (123-cd) pyrene.

PESTICIDE ANALYSES

A significant amount (73 ppb) of 4,4' DDE was reported in sample AK603; and lesser amounts in samples AK605 and AK606 which reported 18 and 25 ppb of 4,4' DDT respectively. All other pesticides quantitations were at non-significant levels, (less than CRQL).

Table III summarizes the validation recommendations which were based on the following information:

Holding times, DDT retention time, retention time windows, DDT/Endrin degradation, DBC retention time, initial calibration linearity, analytical sequence, ^{2nd} continuing calibration data were all reviewed and all contractual criteria were met.

The soil pesticide surrogate recovery was acceptable except in sample AK608 and AK608 RE. The Dibutylchlorendate co-eluded and over recovered.

The matrix spike and matrix spike duplicate recoveries were within QC limits.

With the exception of the 3 reported compounds above, all other reported compounds were J'd or rejected due to poor chromatography.

cc: C. Wood, Chief, Quality Assurance
R. Lind, RSCC, RCRA program.

Soils

CLP VOLATILE ORGANIC ANALYSIS
AQUEOUS ANALYTICAL RESULTS

(ppb)

44/K9

Table I

Sample Location		88556	88557	88558	88559	88560	88561	88562										
Sample Number		1811919	1811920	1811921	1811922	1811923	1811924	1811925										
Traffic Report Number		AK603	AK604	AK605	AK606	AK607	AK608	AK609										
Remarks				DUPS	→													
Compound	Detection Limit (ppb)																	
Chloromethane		13 U	15 U	11 U	11 U	12 U	12 U											
Bromomethane		13 U	15 U	11 U	11 U	12 U	12 U											
Vinyl Chloride		13 U	15 U	11 U	11 U	12 U	12 U											
Chloroethane		13 U	15 U	11 U	11 U	12 U	12 U											
Methylene Chloride		32 R	35 R	9 R	16 R	15 R	31 R											
Acetone	all U3	13 U3	15 U3	11 U3	11 U3	12 U3	12 U3	14										
Carbon Disulfide		6 U	7 U	6 U	6 U	6 U	6 U											
1,1-Dichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
1,1-Dichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
1,1,2-Dichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
Chloroform		6 U	7 U	6 U	6 U	6 U	6 U											
1,2-Dichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
2-Butanone		13 U3	15 U3	11 U3	11 U3	12 U3	12 U3											
1,1,1-Trichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
Carbon Tetrachloride		6 U	7 U	6 U	6 U	6 U	6 U											
Vinyl Acetate		13 U	15 U	11 U	11 U	12 U	12 U											
Bromodichloromethane		6 U	7 U	6 U	6 U	6 U	6 U											
1,1,2,2-Tetrachloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
1,2-Dichloropropane		6 U	7 U	6 U	6 U	6 U	6 U											
trans-1,3-Dichloropropene		6 U	7 U	6 U	6 U	6 U	6 U											
Trichloroethene		6 U	7 U	6 U	6 U	6 U	6 U											
Dibromochloromethane		6 U	7 U	6 U	6 U	6 U	6 U											
1,1,2-Trichloroethane		6 U	7 U	6 U	6 U	6 U	6 U											
Benzene		6 U	7 U	6 U	6 U	6 U	6 U											
Cis-1,3-Dichloropropene		6 U	7 U	6 U	6 U	6 U	6 U											
2-Chloroethylvinyl ether																		
Bromoform		6 U3	7 U3	6 U3	6 U3	6 U3	6 U3											
2-Hexanone		13 U3	15 U3	11 U3	11 U3	12 U3	12 U3											
4-Methyl-2-Pentanone		13 U	15 U	11 U	11 U	12 U	12 U											
Tetrachloroethene		6 U	7 U	6 U	6 U	6 U	6 U											
Toluene		6 U	7 U	6 U	6 U	6 U	6 U											
Chlorobenzene		6 U	7 U	6 U	6 U	6 U	6 U											
Ethylbenzene		6 U	7 U	6 U	6 U	6 U	6 U											
Styrene		6 U	7 U	6 U	6 U	6 U	6 U											
Total Xylenes		6 U	7 U	6 U	6 U	6 U	6 U											
Total volatile organic concentration (ppb)																		
Concentration/Dilution factor		1	1	1	1	1	1											
Date received by lab		5/20/98	5/20	5/20	5/20	5/20	5/20											
Date of analysis		5/25/98	5/25	5/23	5/25	5/25	5/25											
Instrument used for analysis																		

Notes

90 moisture

22

33

10

11

15

17

0

- Compound was not detected.
- 3 Quantitation is approximate due to limitations identified during the quality control review (data validation).
- Value is rejected due to other contractual criteria examined during the quality control review.
- Value is rejected due to blank contamination identified during the quality control review.

Soils (ppb) $\mu\text{g/Kg}$

ES.D.
blank
soil

Table II

[illegible]

CLP EXTRACTABLE ORGANIC ANALYSIS
AQUEOUS ANALYTICAL RESULTS
(ppb)
PAGE TWO 3615

Table III

Field pups.

Sampling Location								
Sample Number								
Traffic Report Number								
Remarks								
Ak603	Ak604	Ak605	Ak606	Ak607	Ak608	Ak609		
Semivolatile Compound	Detection Limit (ppb)							
Acenaphthene	420 U	490 U	370 U	370 U	390 U	400 U	330 U	
2, 4-Dinitrophenol	2100 U	2400 U	1800 U	1800 U	1900 U	1900 U	1600 U	
4-Nitrophenol	2100 U	2400 U	1800 U	1800 U	1900 U	1900 U	1600 U	
Dibenzofuran	420 U	490 U	370 U	370 U	390 U	400 U	330 U	
2, 4-Dinitrotoluene	420 U		370 U	370 U	390 U			
2, 6-Dinitrotoluene	"		370 U	370 U	390 U			
Diethylphthalate	"							
4-Chlorophenyl-phenylether	"							
Fluorene	"							
4-Nitroaniline	2100 U	2400 U	1800 U	1800 U	1900 U	1900 U	1600 U	
4, 6-Dinitro-2-Methylphenol	2100 U	2400 U	1800 U	1800 U	1900 U	1900 U	1600 U	
N-Nitrosodiphenylamine (I)	420 U	490 U	370 U	370 U	390 U	400 U	330 U	
4-Bromophenyl-phenylether	"							
Hexachlorobenzene	"							
Pentachlorophenol	2100 U	2400 U	1800 U	1800 U	1900 U	1900 U	1600 U	
Phenanthrene	90 J	140 J	49 J	51 J	75 J	62 J	330 U	
Anthracene	420 U	490 U	370 U	370 U	390 U	400 U		
Di-n-Butylphthalate	"	"	120 J	370 U	390 U	400 U		
Fluoranthene	170 J	250 J	54 J	80 J	160 J	130 J		
Benzidine	490 U							
Pyrene	190 J	240 J	59 J	70 J	140 J	130 J		
Butylbenzylphthalate	420 U	490 U	60 J	370 U	390 U	400 U		
3, 3-Dichlorobenzidine	250 U	990 U	730 U	740 U	780 U	800 U	660 U	
Benzo(a)Anthracene	61 J	73 J	370 U	370 U	390 U	42 J	330 U	
bis(2-Ethylhexyl)Phthalate	68 J	70 J	390 U	370 U	73 J	98 J		
Chrysene	97 J	130 U	370 U	46 J	65 J	73 J		
Di-n-Octyl Phthalate	420 U	490 U	370 U	370 U	390 U	400 U		
Benzo(b)Fluoranthene	180 J	220 U	43 J	110 J	130 J	110 J		
Benzo(k)Fluoranthene	120 J	160 J	370 U	48 J	79 J	81 J		
Benzo(a)Pyrene	97 J	160 J		370 U	73 J	56 J		
Indeno(1, 2, 3-cd)Pyrene	92 J	120 J			62 J	400 U		
Dibenzo(a, h)Anthracene	420 U	490 U			390 U	400 U		
Benzo(g, h, i)Perylene	"	170 J			86 J	400 U		

CLP EXTRACTABLE ORGANIC ANALYSIS
AQUEOUS ANALYTICAL RESULTS
(ppb)
PAGE THREE

88559

ES.D. 301
BLK.

Sampling Location		88556	88557	88558	88559	88560	88561	88562						
Sample Number		AK603	AK604	AK605	AK606	AK607	AK608	AK609						
Traffic Report Number														
Remarks				DUP	→									
Semivolatile Compound	Detection Limit (ppb)													
Alpha-BHC	21 U	12 U	9.9 U	9.0 U	9.4 U	96 U								
Beta-BHC	↓	↓	↓	↓	↓	↓								
Delta-BHC	↓	↓	↓	↓	↓	↓								
Gamma-BHC (Lindane)	↓	↓	↓	↓	↓	↓								
Heptachlor	↓	↓	↓	↓	↓	↓								
Aldrin	↓	↓	↓	↓	↓	↓								
Heptachlor Epoxide	↓	↓	9.4 U	18 U	↓	↓								
Endosulfan I	41 U	24 U	18 U	18 U	19 U	190 U								
Dieldrin	73	2.75	10 U	15 U	2.3 U	↓								
4,4-DDE	41 U	24 U	18 U	18 U	19 U	↓								
Endrin	"	"	18 U	18 U	"	↓								
Endosulfan II	20 U	"	4.6 U	3.1 U	"	↓								
4,4-DDD	210 U	120 U	89 U	90 U	94 U	960 U								
Endrin-Aldehyde chloroac	41 U	24 U	18 U	18 U	19 U	190 U								
Endosulfan Sulfate	11 U	12 U	18 U	25 U	3.9 U	"								
4,4-DDT	210 U	120 U	89 U	90 U	94 U	960 U								
Methoxychlor	41 U	24 U	18 U	18 U	19 U	190 U								
Endrin Ketone	5.5 U	12 U	5.5 U	9.2 U	3.5 U	960 U								
Chlordane - gamma	410 U	240 U	180 U	180 U	190 U	1900 U								
Toxaphene	210 U	120 U	89 U	90 U	94 U	960 U								
Aroclor-1016	↓	↓	↓	↓	↓	↓								
Aroclor-1221	↓	↓	↓	↓	↓	↓								
Aroclor-1232	↓	↓	↓	↓	↓	↓								
Aroclor-1242	↓	↓	↓	↓	↓	↓								
Aroclor-1248	410 U	240 U	180 U	180 U	190 U	1900 U								
Aroclor-1254	"	"	"	"	"	"								
Aroclor-1260	22	33	10	11	15	17								
MOISTURE	2	1	1	1	1	10								
Concentration/Dilution factor		5-20-88	5-20	5-20	5-20	5-20	5-20	5-20						
Date received by lab		5-23	5-23	5-23	5-23	5-23	5-23	5-23						
Date sample extracted		6-3	6-3	6-3	6-3	6-3	6-3	6-4						
Date of analysis														
Instrument used for analysis														

Notes:

- Compound was not detected.
-] Quantitation is approximate due to limitations identified during the quality control review (data validation).
- Value is rejected due to other contractual criteria examined during the quality control review.
- Value is rejected due to blank contamination identified during the quality control review.